INTERNATIONAL SEARCH REPORT

International Application No
PCT/DK2004/000659

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07K5/00 C07K7/00 C07K14/00 G01N33/68 A61K38/04
A61K38/17

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C07K G01N A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	RAO Y ET AL: "Identification of a peptide sequence involved in homophilic binding in the neural cell adhesion molecule NCAM" JOURNAL OF CELL BIOLOGY, ROCKEFELLER UNIVERSITY PRESS, NEW YORK, US, US, vol. 118, no. 4, August 1992 (1992-08), pages 937-949, XP002118323 ISSN: 0021-9525 cited in the application Abstract; Table IV, Figure 11; Discussion -/--	1-10, 23-60,62

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
11 April 2005	30 MAY 2005

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Moonen, P

Form PCT/ISA/210 (second sheet) (January 2004)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DATABASE HTTP://WWW 'Online! 2002, KASPER ET AL.: "Extracellular modules of the cell adhesion molecules" XP002315066 retrieved from HTTP://WWW-HASYLAB.DESY.DE/SCIENCE/ANNUAL_REPORTS/2002_REPORT/PART2/CONTRIB/72/7824.PDF the whole document	1-10, 23-60,62
Y	ATKINS A R ET AL: "Solution structure of the third immunoglobulin domain of the neural cell adhesion molecule N-CAM: can solution studies define the mechanism of homophilic binding?" JOURNAL OF MOLECULAR BIOLOGY, LONDON, GB, vol. 311, no. 1, 3 August 2001 (2001-08-03), pages 161-172, XP004469275 ISSN: 0022-2836 cited in the application Abstract; Figure 1; Page 168, first full paragraph -Page 169 left column	1-10, 23-60,62
Y	HUAN Z ET AL: "IMMUNOGLOBULIN SUPERFAMILY PROTEINS: STRUCTURE, MECHANISMS, AND DRUG DISCOVERY" BIOPOLYMERS, NEW YORK, NY, US, vol. 43, no. 5, 1997, pages 367-382, XP001119525 ISSN: 0006-3525 abstract; table I	20-22,49
Y	KASPER CHRISTINA ET AL: "Structural basis of cell-cell adhesion by NCAM" NATURE STRUCTURAL BIOLOGY, vol. 7, no. 5, May 2000 (2000-05), pages 389-393, XP002315064 ISSN: 1072-8368 cited in the application the whole document	20-22,49
A	RONN L C B ET AL: "IDENTIFICATION OF A NEURITOGENIC LIGAND OF THE NEURAL CELL ADHESION MOLECULE USING A COMBINATORIAL LIBRARY OF SYNTHETIC PEPTIDES" NATURE BIOTECHNOLOGY, NATURE PUBLISHING, US, vol. 17, October 1999 (1999-10), pages 1000-1005, XP002902581 ISSN: 1087-0156 abstract	24

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	SOROKA VLADISLAV ET AL: "Induction of neuronal differentiation by a peptide corresponding to the homophilic binding site of the second Ig module of the neural cell adhesion molecule" JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 277, no. 27, 5 July 2002 (2002-07-05), pages 24676-24683, XP002315062 ISSN: 0021-9258 cited in the application Abstract, Introduction	24
A	KRISTIANSEN L V ET AL: "Homophilic NCAM interactions interfere with L1 stimulated neurite outgrowth" FEBS LETTERS, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 464, no. 1-2, 24 December 1999 (1999-12-24), pages 30-34, XP004260716 ISSN: 0014-5793 cited in the application Abstract; Introduction	24
A	JENSEN PETER HOLME ET AL: "Structure and interactions of NCAM modules 1 and 2, basic elements in neural cell adhesion" NATURE STRUCTURAL BIOLOGY, vol. 6, no. 5, May 1999 (1999-05), pages 486-493, XP002315063 ISSN: 1072-8368 cited in the application	
A	WO 00/18801 A2 (ROENN, LARS, CHRISTIAN, B; BOCK, ELISABETH; HOLM, ARNE; OLSEN, MARIANN) 6 April 2000 (2000-04-06) Page 29, SEQ ID NO:26	
X,P	SOROKA VLADISLAV ET AL: "Structure and interactions of NCAM Ig1-2-3 suggest a novel zipper mechanism for homophilic adhesion." STRUCTURE (CAMBRIDGE), vol. 11, no. 10, October 2003 (2003-10), pages 1291-1301, XP002315065 ISSN: 0969-2126 the whole document	1-10, 23-60,62

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ternational application No.
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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. [X] Claims Nos.: 1-10, 49
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 1-10 and 49 are (partially) directed to a method of treatment of or diagnosis applied on the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

2. [ ] Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. [ ] Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. [ ] As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. [ ] As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. [X] As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

20-22 completely; 1-10, 23-60 and 62 partially (inventions 1 and 5)

4. [ ] No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

[X] The additional search fees were accompanied by the applicant's protest.

[ ] No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Invention 1: Claims 1-10, 23-60 and 62, partially

Compounds, capable of interacting with the NCAM homophylic binding site composed of the Ig1, Ig2 and Ig3 modules and thereby modulating the interaction between Ig1 and Ig3 modules from two individual NCAM molecules; methods of modulating cells presenting NCAM.

Invention 2: Claims 1-10, 23-60 and 62, partially

Compounds, capable of interacting with the NCAM homophylic binding site composed of the Ig1, Ig2 and Ig3 modules and thereby modulating the interaction between Ig2 and Ig3 modules from two individual NCAM molecules; methods of modulating cells presenting NCAM.

Invention 3: Claims 1-10, 23-60 and 62, partially

Compounds, capable of interacting with the NCAM homophylic binding site composed of the Ig1, Ig2 and Ig3 modules and thereby modulating the interaction between two Ig2 modules from two individual NCAM molecules; methods of modulating cells presenting NCAM.

Invention 4: Claims 11-19 and 61

Crystals of a polypeptide comprising the Ig1-Ig2-Ig3 module of NCAM, their use and method of crystallisation.

Invention 5: Claims 20-22 completely; claim 49 partially

Methods for selecting a candidate compound based on a structural model of the Ig1-Ig2-Ig3 modules of NCAM, obtainable eg from the soluble or crystalline polypeptide.

INTERNATIONAL SEARCH REPORT

Information on patent family members

itional Application No
PCT/DK2004/000659

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0018801 A2	06-04-2000	AU 761451 B2	05-06-2003
		AU 5727499 A	17-04-2000
		CA 2343975 A1	06-04-2000
		EP 1117680 A2	25-07-2001
		JP 2002525102 T	13-08-2002